AMENDMENTS TO THE SPECIFICATION

Prior to page 1, line 3 please insert the following:

"CROSS REFERENCE TO RELATED APPLICATIONS

The present application claims priority to, and incorporates by reference in its entirety, U.S. Provisional Application Serial No. 60/363,415 filed March 12, 2002."

Please amend the paragraph continuing at page 15, line 1 as follows:

"$m=1,\ldots,\log_2(M)$, the following steps are performed: In step 304, the signal point $\hat{s}$ which is closest to $\check{s}$ is looked up in a look-up table 308. This signal point corresponds to the signal point which is closest to r and has the opposite bit value at position m than $\check{s}$. In step 305, the distance δ_2 between r and $\hat{s}$ is calculated. Based on the distances δ_1 and δ_2, the soft value L_m is now approximated according to eqn. (7) above: If the bit value $\hat{s}_m$ of $\hat{s}$ at position m is 0, the soft value is approximated by $L_m= K\cdot((\delta_2)2-(\delta_1)^2)$ (step 306). Otherwise the soft value is approximated by $L_m= K\cdot((\delta_1)2-(\delta_2)^2)$ (step 307). Here, K is a constant which depends on the noise distribution as described above. Referring to the example illustrated in fig. 2, the closest signal point to the received signal r (marked by the cross 201) is $\check{s}=S_8$. When calculating a soft value L_1 for the first bit position m=1 using the method of fig. 3, the first bit in S_8 is identified to be $\check{s}_1 = 1$. From a pre-computed look-up table, e.g. as illustrated in fig. 4, the closest signal point with a "0" in the first bit position is $\hat{s}=S_6$. Hence, the distances δ_1 and δ_2 may be calculated as $\delta_1=|r-S_8|$ and $\delta_2=|r-S_6|$, respectively, where $|\cdot|$ denotes the Euclidean distance. Thus, the soft value L_1 is approximated by $L_1 = K\cdot((\delta_2)2-(\delta_1)^2)$."

Please amend the paragraph beginning at page 16, line 5 as follows:

"Fig. 5 shows a flow diagram of a method according to an embodiment of the invention. Again, this embodiment utilises the approximation of equation (7) for the calculation of the soft values L_m. As in the method of fig. 3, in the initial step 501, a signal r is received and, in step 502, the signal point $\check{s}$ from the set of signal points $S_1\ldots S_M$, which is closest to r is identified, e.g. by means of a slicer. In step 503, the distance δ_1 between r and $\check{s}$ is calculated. Subsequently, for bit positions $m=1,\ldots,\log_2(M)$, the following steps are performed: In step 504, the distance δ_3 between $\check{s}$ and the signal point $\hat{s}$ which is closest to $\check{s}$ and has the opposite bit value at position m is looked up in a look-up table 508. Subsequently, this distance δ_3 is used as an approximation for the distance δ_2 between r and $\hat{s}$ when approximating the soft value L_m according to eqn. (7) above. Hence, if the bit value $\hat{s}_m$ of $\hat{s}$ at position m is 0, the soft value is approximated by $L_m= K\cdot((\delta_3)^2-(\delta_1)^2)$ (step 506). Otherwise the soft value is approximated by $L_m= K\cdot((\delta_1)^2-(\delta_3)^2)$ (step 507). Again, K is a constant which depends on the noise distribution. Referring again to the example illustrated in fig. 2, the closest signal point to the received signal r is $\check{s}=S_8$. When calculating a soft value L_1 for the first bit position m=1 using the method of fig. 5, the first bit in S_8 is identified to be $\check{s}_1 = 1$. From a pre-computed look-up table, e.g. as illustrated in fig. 6, the distance to the closest signal point with a "0" in the first bit position is $d_{1,8}=\delta_3$. Hence, the distance δ_1 is calculated as $\delta_1=|r-S_8|$ and δ_2 is approximated by δ_3. Thus, the soft value L_1 is approximated by $L_1 = K\cdot((\delta_3)^2-(\delta_1)^2)$."